

REMARKS

Claims 1-11 remain pending herein.

Claims 1 and 7-9 were rejected under Section 103 over Iijima et al. ('378 or '772) in combination with Savvides et al., Sioshansi et al. or Maishev et al., in further combination with Slaughter et al. This rejection is respectfully traversed for the following reasons.

The claimed invention has been clarified herein to more clearly recite the orientation and functionality of the separator utilized in the claimed coating process for forming a superconductor. In particular reference to Fig. 4 and the paragraph bridging pages 12 and 13, the separator may be in the form of a sheet or plate, formed of zirconium oxide or stainless steel coated with zirconium oxide, for example. The separator is oriented along a direction that longitudinally bisects the substrate. See Fig. 2, evaporation source 146 including separator 170, and the cross section of Fig. 2 along line B-B shown in Fig. 4. In reference to the text of the present specification and Fig. 4, separator 170 functions to barricade ions from first ion source 116 to the second portion of the substrate (right-hand portion of the substrate), and to barricade ions from second ion source 117 from impinging on the first portion of the substrate (left-hand portion of the substrate).

Turning to the cited prior art, the PTO continues to rely upon Iijima et al. for disclosure of a basic process flow of forming a coating on a substrate of a superconductor. Because Iijima et al. fail to disclose or suggest dual RF-ions sources as claimed, the PTO has relied upon secondary references Savvides et al., Sioshansi et al., or Maishev et al.

Foremost, the PTO's reliance upon Savvides et al. is entirely misplaced, since the present claims are quite clear in reciting that the ion sources are aimed at and impinge different portions of the substrate. The PTO's reliance upon Sioshansi et al. is similarly deficient. Further, Sioshansi et al. fail to disclose or suggest first and second RF-ion sources extending along a plane normal to the longitudinal axis of the at least one

substrate. As shown, the respective pairs of RF-ion sources are tilted with respect to the plane of the substrate 42, and do not extend along a direction that intersects substrate 42 perpendicularly. The PTO's reliance upon Maishev et al. also continues to be deficient, failing to suggest first and second RF-ion sources oriented as claimed, for impinging a translating tape. In this respect, although the cross-sectional drawings of Maishev et al. appear relevant, upon detailed review, Maishev et al. is limited to generally concentric impingement forming round or ellipsoidal structures. Absent Applicants' own disclosure, one of ordinary skill in the art would not have relied upon Maishev et al. for first and second RF-ion sources oriented as claimed.

In any event, the cited prior fails to disclose or even remotely suggest the claimed process that makes use of a separator as claimed. In this regard, it is noted that the PTO has now further relied upon Slaughter et al. for disclosure of a "separator." The disclosed separator of Slaughter et al. is actually first and second separator elements 46, 48, provided between target holders 50 and 52 corresponding to ion sources. The separators are intended to prevent crosstalk between the spaced apart target holders. In no way does Slaughter et al. disclose or suggest orientation of a separator so as to longitudinally bisect a substrate, and more notably, barricade impingement of ions from a first ion source on a portion of the substrate, and from a second ion source to the other portion of the substrate. Not only does Slaughter et al. fail to suggest such an arrangement, but indeed teaches precisely the opposite, in which the ion sources impinge ions on the entirety of the substrate.

Furthermore, similar to Slaughter et al., the secondary references Savvides et al., Maishev et al. and Sioshansi et al. clearly teach ion beams that are intended to overlap each other, and generally each cover the entirety of the particular substrate. The references as a whole fail to teach or suggest isolating a first RF-ion source from a second RF-ion source, in terms of preventing beam impingement on opposing portions of a substrate, with use of a separator.

For at least the forgoing reasons, in view of the amendments to the present claims, reconsideration and withdrawal of the Section 103 rejection are respectfully requested.

The remaining claims 2 and 3-6 were rejected over additional secondary prior art references. Those references fail to cure the deficiencies of the prior art noted above. Accordingly, withdrawal of these Section 103 rejections is respectfully requested as well.

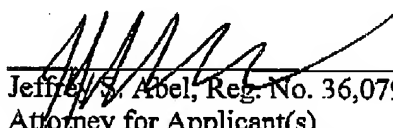
Applicants respectfully submit that the present application is now in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for all pending claims.

Should the Examiner deem that any further action by the Applicants would be desirable for placing this application in even better condition for issue, the Examiner is requested to contact Applicants' undersigned attorney at the number listed below.

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-3797.

Respectfully submitted,

2/13/07
Date


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